



中国环境与发展国际合作委员会
CHINA COUNCIL FOR INTERNATIONAL COOPERATION
ON ENVIRONMENT AND DEVELOPMENT

Assessment of Pollution Reduction in the 11th Five Year Plan Period

**Task Force on
Policy Mechanism towards Environmental Targets for
the 12th “Five-Year” Plan**

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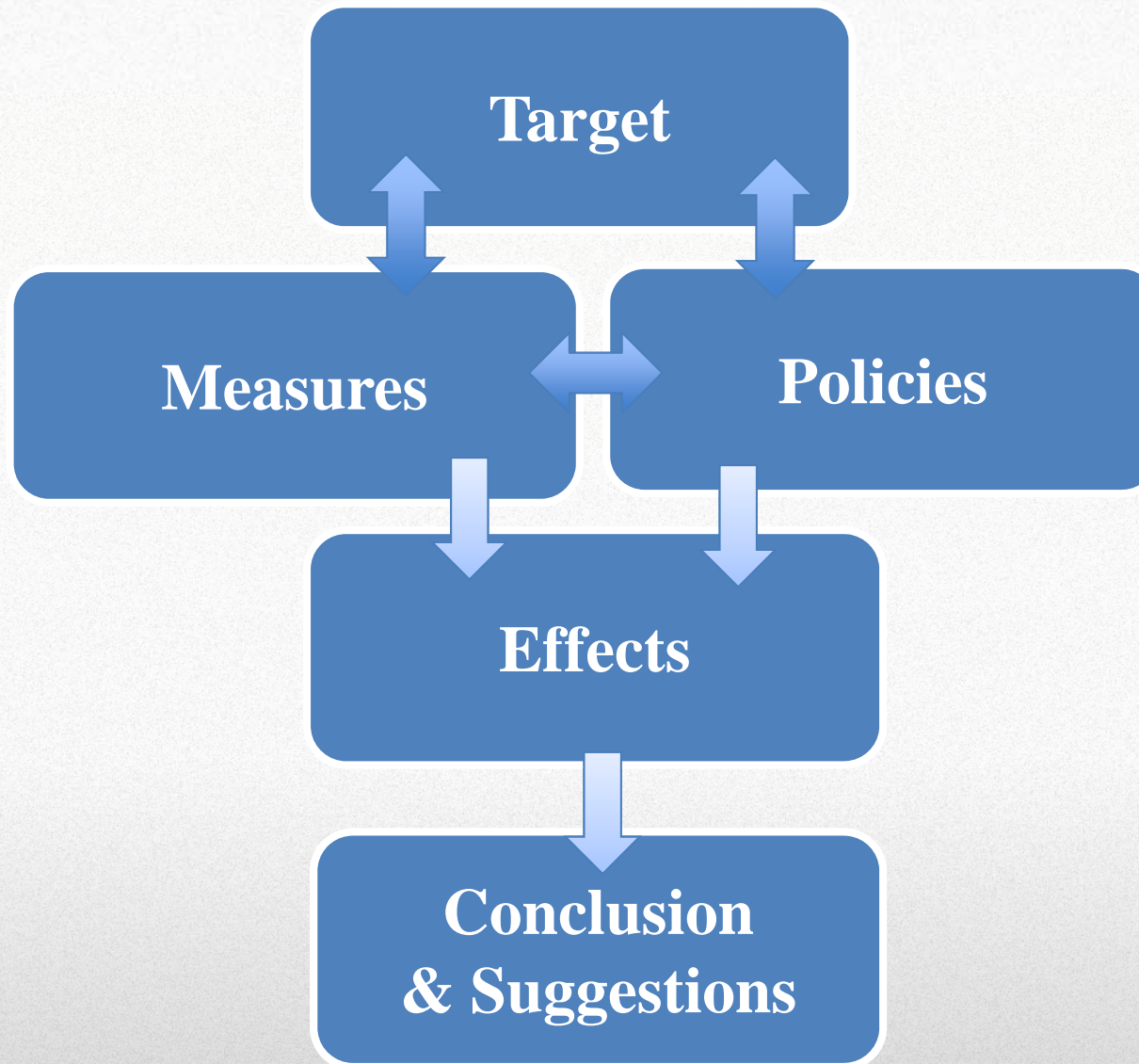
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Framework





1. It is a great achievement that the emission reduction targets were met while the environmental pressure exceeded the expected scenario.

Target

Measures

Policy

Effects

Conclusion



Key parameters for social and economic development in the 11th FYP far exceeded the expected scenario





Environmental pressure exceeded the expected scenario in the 11th FYP period

类别	指标	2005	规划目标		实现情况		差距	总体上对环境 影响	Target
			2010	年均增长(%)	2010	年均增长(%)			
经济 增长	国内生产总值(万亿元)	18.5	26.6	[8.0]	39.8	11.2	+3.7%	逆向	Measures
	人均国内生产总值(元)	14155	22700	[8.0]	29748	10.6	+4.0%	逆向	
经济	服务业增加值比重(%)	44.5	53.3	[8.8]	45	[2.5]	[-0.5%]	正向	Policy
结构	研发经费支出占GDP比重(%)	1.3	1.9	[6.9]	1.75	[0.45]	[-0.25]	正向	
	城镇化率(%)	43	50	[7]	47.5	[4.5]	[+0.5]	逆向	
人口、能源 与资源	全国总人口(万人)	129756	136900	[8.8]	137053	9.6%	[+1.6%]	逆向	Effects
	单位国内生产总值能耗降低(%)	12.1	15	[23]	19.1%	[19.1%]	[-0.9%]	正向	
	单位工业增加值用水量降低(%)	12.1	15	[23]	19.1%	[19.1%]	[-0.9%]	正向	
	农业灌溉用水有效利用系数	0.47	0.5	[6.4]	0.5	[6.7]	[+0.7%]	正向	
<p>The additional pollution reduction effort needed to meet the pollution caps amounted to 2.08 million tons of COD and 4.93 million tons of SO₂</p>									Conclusion

GDP exceeds the planned scenario for 13700 billion Yuan

The proportion of value added in service sector in GDP is 0.5% lower than expected

11 million more urbanized Population

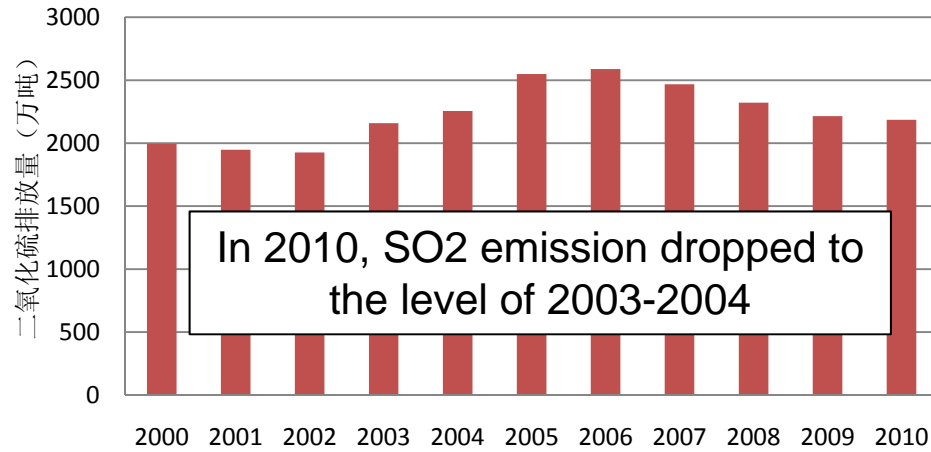
An extra 550 million tons of coal equivalent energy was consumed. Energy intensity reductions were 0.9% less than planned

The additional pollution reduction effort needed to meet the pollution caps amounted to 2.08 million tons of COD and 4.93 million tons of SO₂

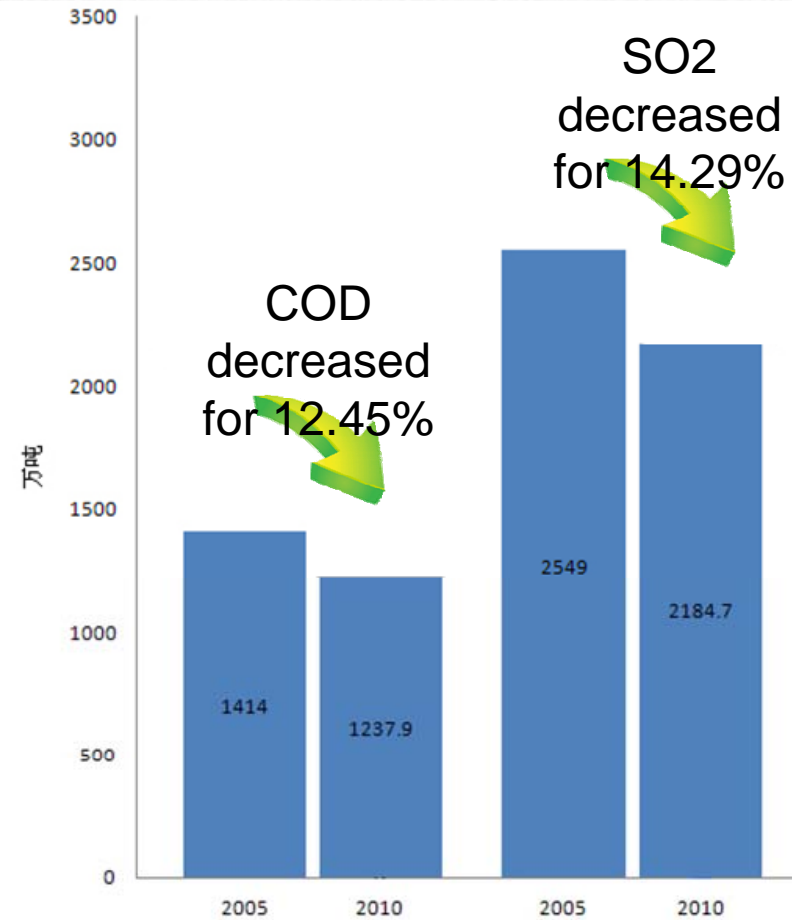
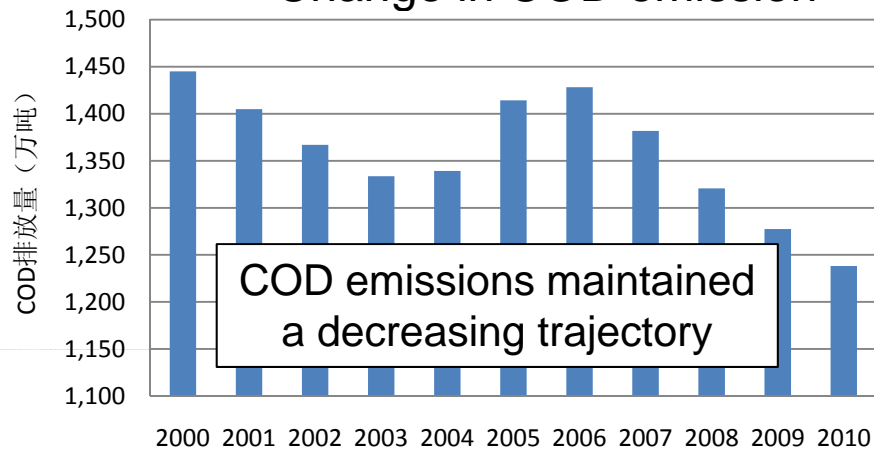


Emissions reduction exceeded the targets

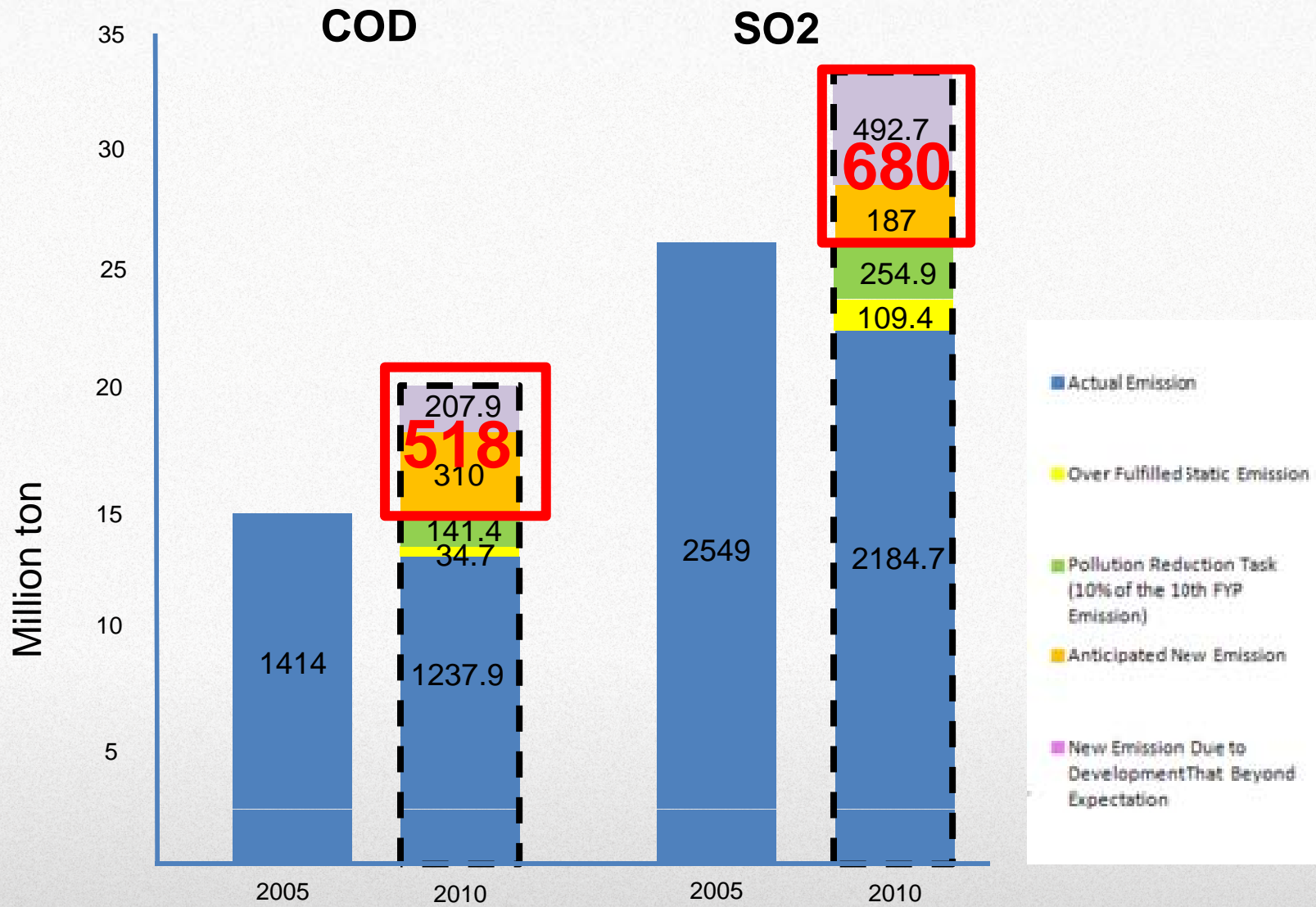
Change in SO2 emission



Change in COD emission



Target
Measures
Policy
Effects
Conclusion



Target
Measures
Policy
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Conclusion



2. Measures of reduction: pollution reduction projects and economic restructuring contributed most to the achievement

Target

Measures

Policy

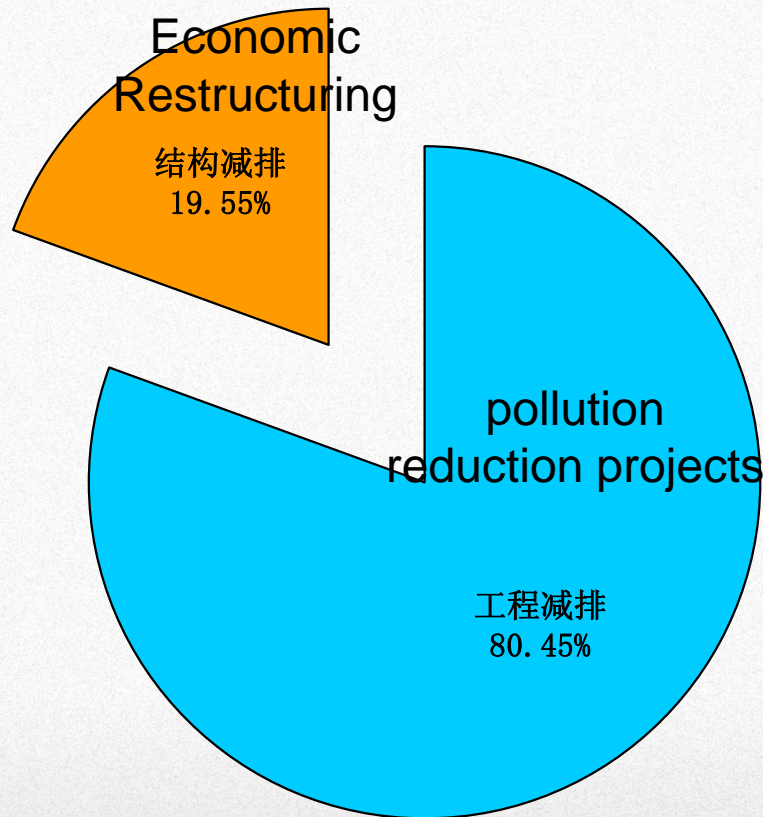
Effects

Conclusion



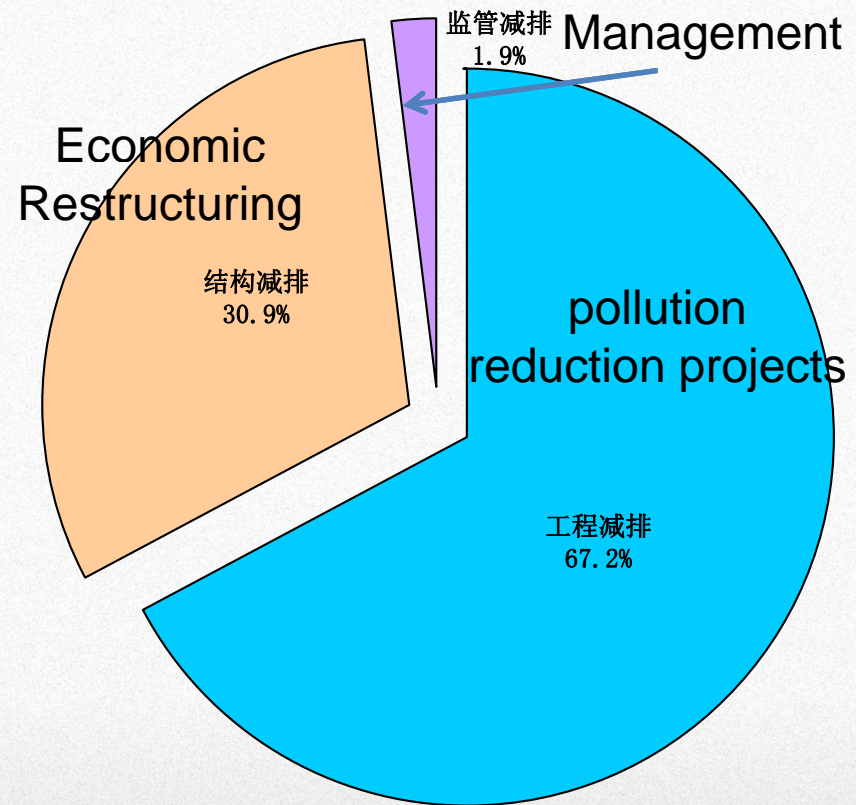
Pollution reduction projects contribute most to the emission reductions

COD Pollution reduction



Sewage treatment plants accounted for 58.5% of the total reduction of COD, and 73% of abatement

SO2 Pollution reduction



Desulphurization projects for coal-fired power plants accounted for 59.5% of the total SO2 reduction, and 88.5% of abatement projects

Target

Measures

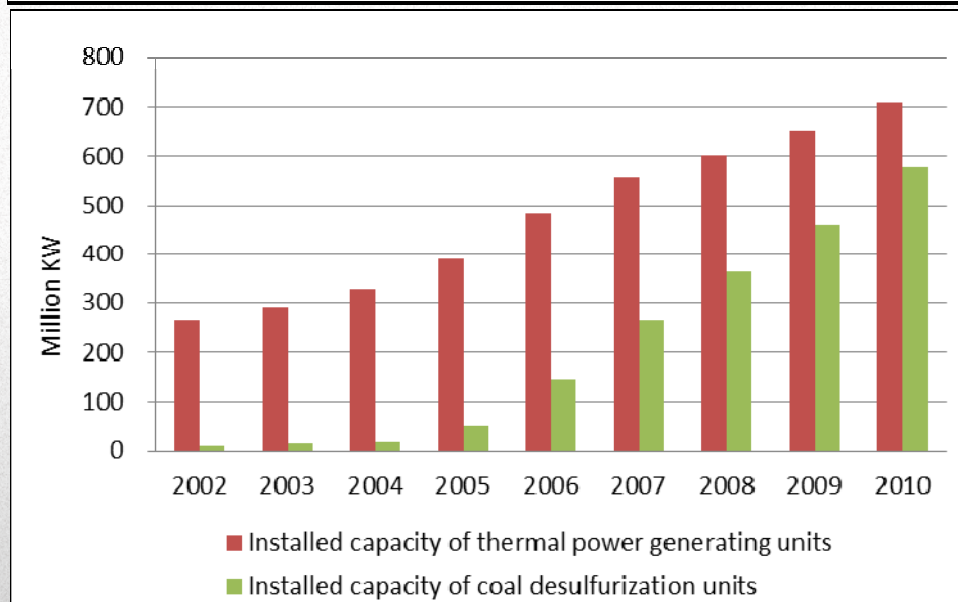
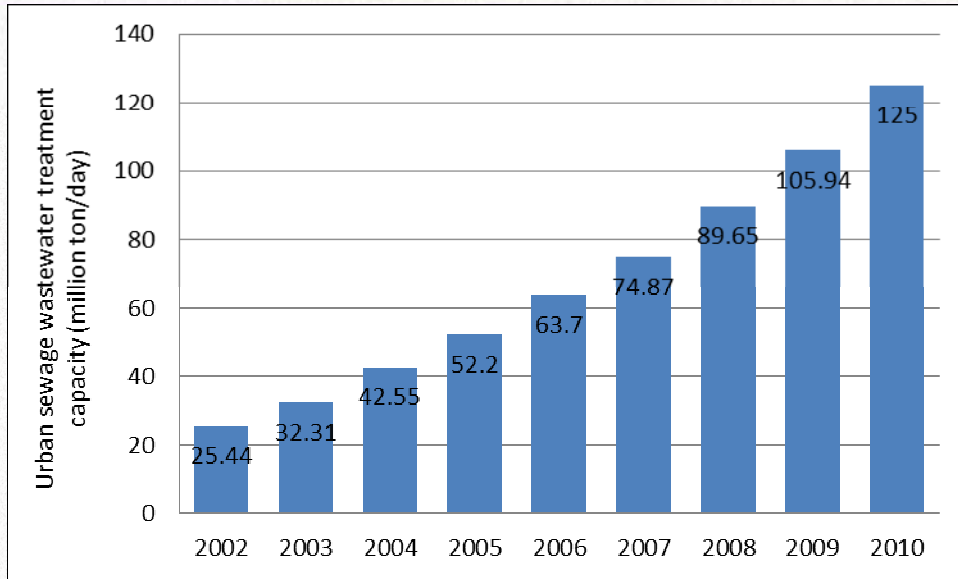
Policy

Effects

Conclusion



Big breakthrough were made in abatement projects

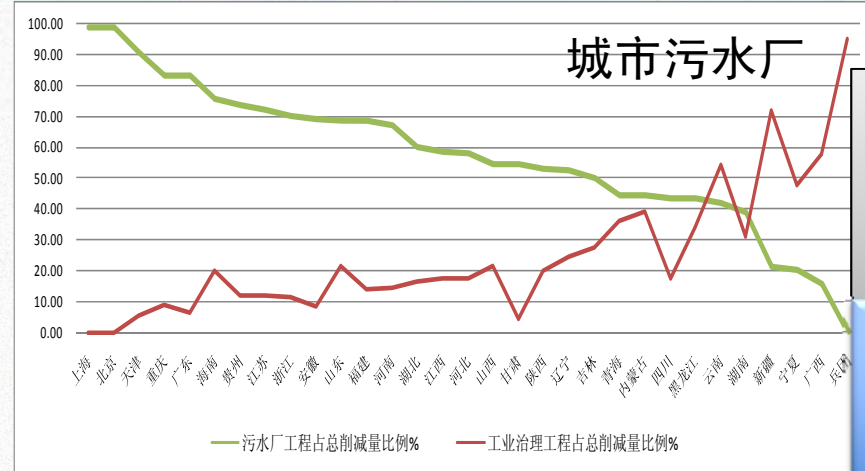
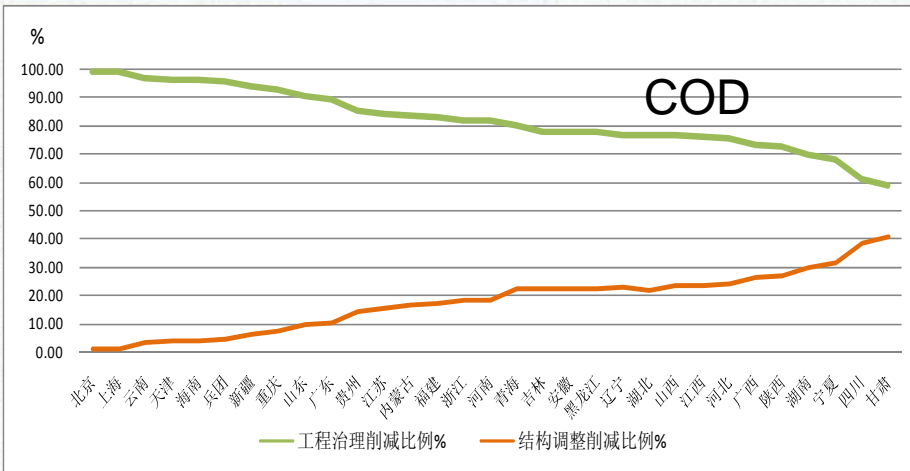


- By the end of 2010, a total of 2,832 urban sewage treatment facilities were built in various cities and counties across China, an increase of around 2,000 during the 11th Five-year Plan
- Daily treatment capacity reached 125 million cubic meters
- Sewage treatment in cities has increased from 52% in 2005 to 77% in 2010
- By 2010, desulphurization facilities had been established for coal-fired power plants with a total capacity of 578 million kw (an increase of 532 million kw in the 11th Five Year Plan)
- The proportion of thermal power generation units with desulphurization equipment increased from 12% in 2005 to 82.6% in 2010

Target
Measures
Policy
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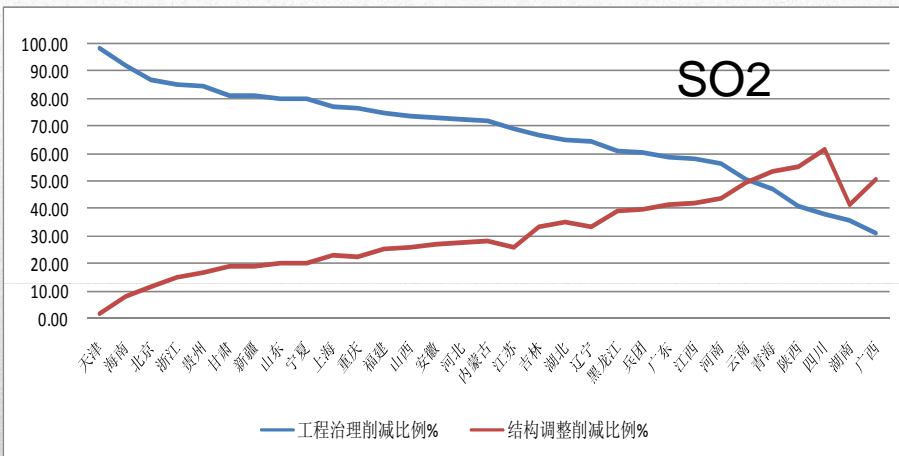


At provincial level, reduction achieved through projects occupied a large percentile



COD: Beijing, Tianjin, Shanghai, Yunnan and Xinjiang Production & Construction Corps: over 90%; 8 provinces including Guangdong, Guizhou, Jiangsu, Zhejiang: 80-90%

Municipal waste water treatment plants: waste water treatment plants in 20 provinces achieved 50% of the provinces' overall COD production. Beijing, Tianjin, Shanghai, Guangdong and Chongqing Achieved over 80%



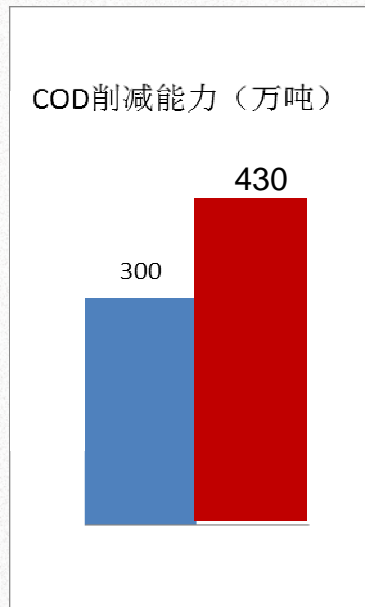
- SO2: Tianjin and Hainan: over 90%
- Beijing, Zhejiang, Guizhou, Xinjiang, Shandong and Gansu: 80-90%

Target
Measures
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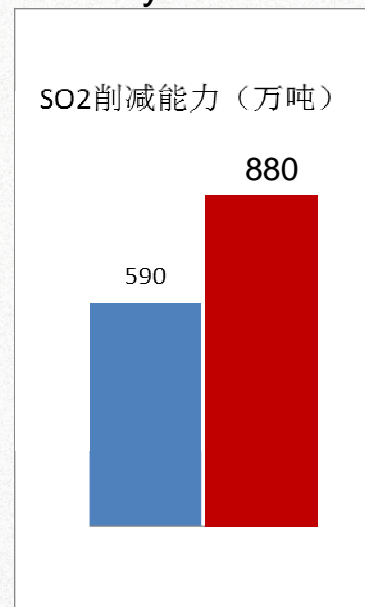


Construction of pollution reduction projects exceeded the planned target

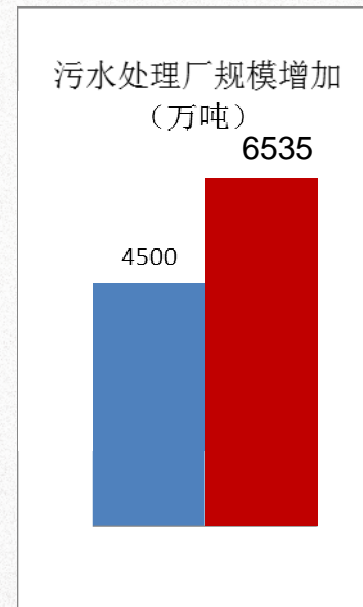
COD exceeded 1.3 million tons



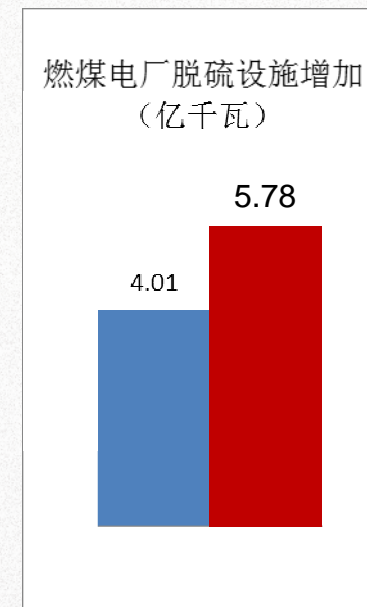
SO₂ exceeded the original plan by 49%



Waste water treatment exceeded by 20 million tons



Desulphurized coal fired facility exceeded by 177 million kw



■ 11th FYP Targets ■ Actual Completed

Target

Measures

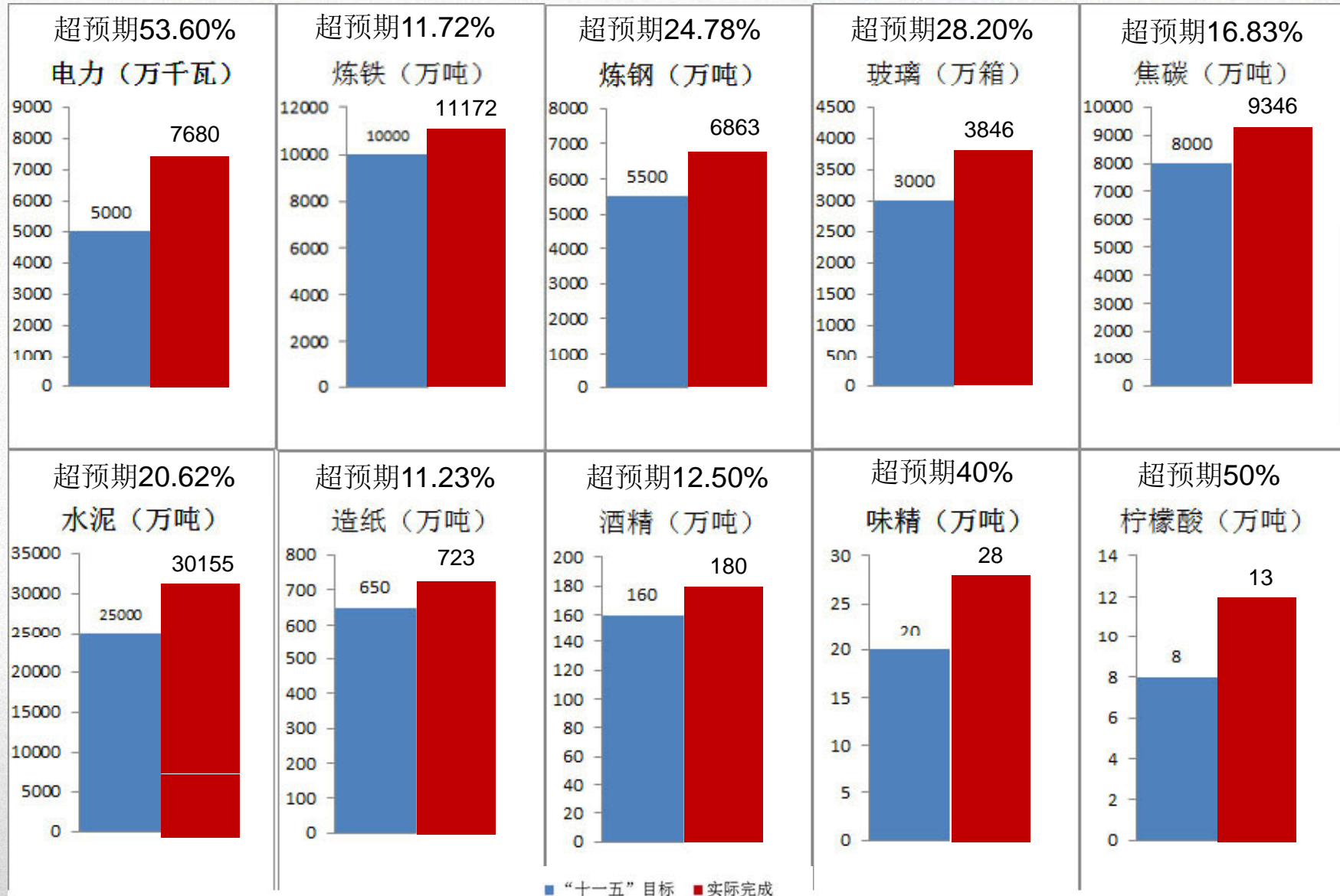
Policy

Effects

Conclusion



phase-out of outdated production capacity exceeded the target



Target
Measures
Policy
Effects
Conclusion



3. Assessment of the comprehensive policy measures: Using logic framework and traffic lights methods to analyze the Comprehensive Work Plan for Energy Conservation and Emission Reduction issued by the State Council, to decompose it into an objective, 3 goals, 12 major measures and 62 verifications

Target

Measures

Policy

Effects

Conclusion



Allocate responsibilities to local government and mobilize participation of local governments

- All provinces allocated environmental targets to governments of lower level. Governments at lower level were responsible for the environment within the boundary of their jurisdiction
- Targets were allocated from level to level, and the responsibility is described clearly. For the first time local governments shoulder the environment responsibility by law
- Set up a series of supportive policies

Target

Measures

Policy

Effects

Conclusion



CCICED

更新烟气脱硝技术规范，开展烟气脱硝工程后评估。

制定并尽快实施有利于节能减排的发电调度办法。

红

(二十六) 鼓励高耗能行业错峰生产。

Implement electricity price policy that encourages desulfurization

绿

提高排污单位排污费征收标准，将二氧化硫排污费由目前

的每公斤 0.63 元分三年提高到每公斤 1.26 元。

红

五、控制高耗能、高污染行业过快增长。				



二、政策措施评估

Comprehensive policy system represented by desulpharized electricity price ensures enforcement of emission reduction

- improved the price, financial and tax polices so as they are in favor of energy saving and emission reduction, and set up a preliminary policy system t support pollution reduction
 - Improved the waste water treatment fee system nation-wide
 - Adjusted export tax reimbursement, industrial permit, loan, tax, trade and safety production supervision polices
 - 1.5 cent per unit subsidy for on-grid electricity price, more stringent emission fee standard on SO₂, green electricity dispatch policy, and total emissions control for the electricity sector
 - More stringent phase-by-phase emission standards for selected regions and sectors

Target

Measures

Policy

Effects

Conclusion



large resources input insures the completion of the emission reduction targets

- In the 11th FYP period 816 billion Yuan were spent on emission reduction projects
 - construction costs reached 455 billion Yuan
 - operation costs reached 361 billion Yuan
- Input from central government revenue reached 166.7 billion Yuan, almost 3 times of the input in the 10th FYP period; non-governmental input reached to over 2,000 billion Yuan

Target

Measures

Policy

Effects

Conclusion



4. Pollution reduction achieved co-benefits

Target

Measures

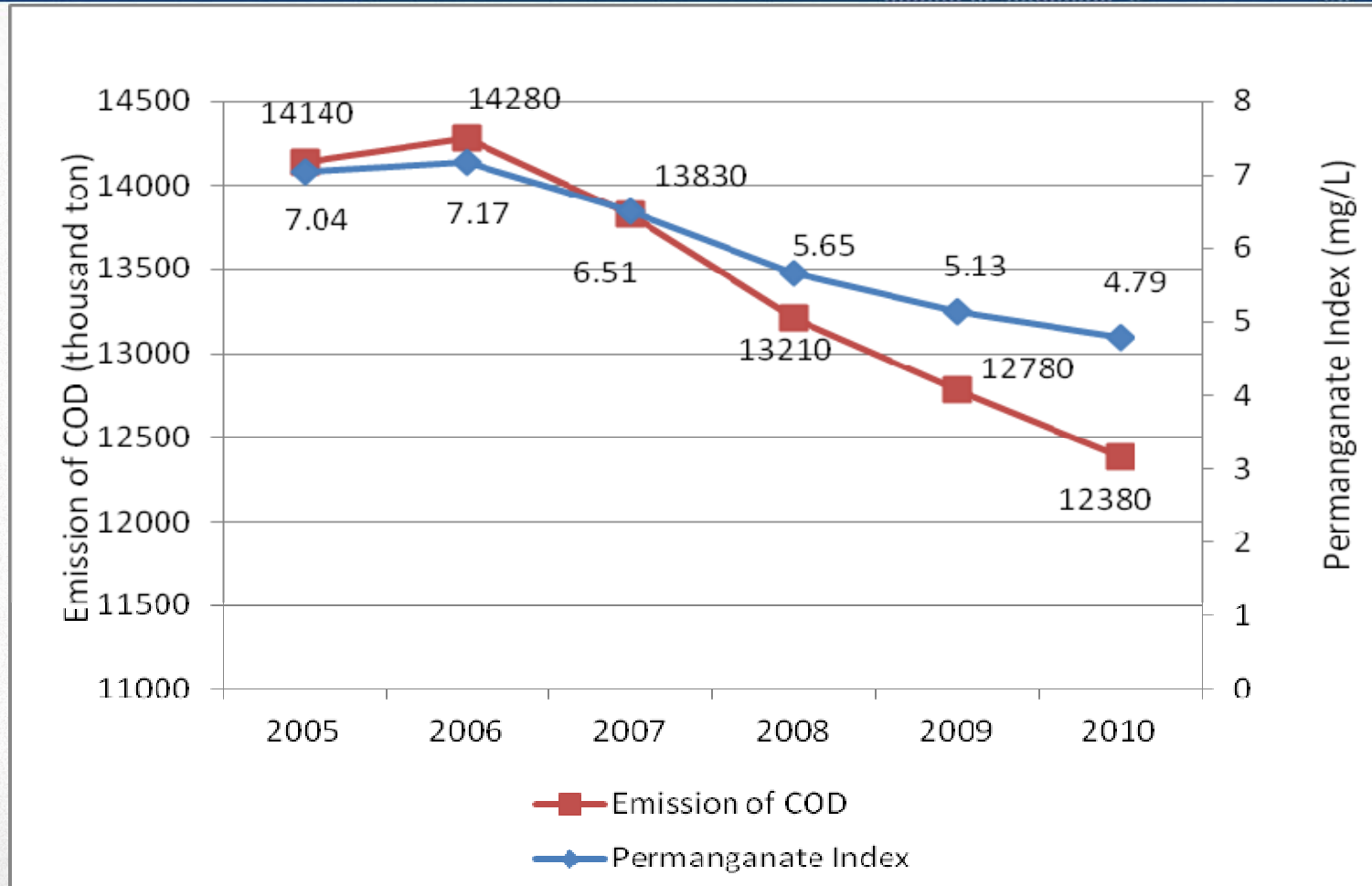
Policy

Effects

Conclusion



Intensity of pollutants in surface water has decreased



- In 2010, the average permanganate index at 759 state-controlled monitoring stations for surface water stood at 4.9 milligram/liter, a 31.9% decrease from that in 2005

Target

Measures

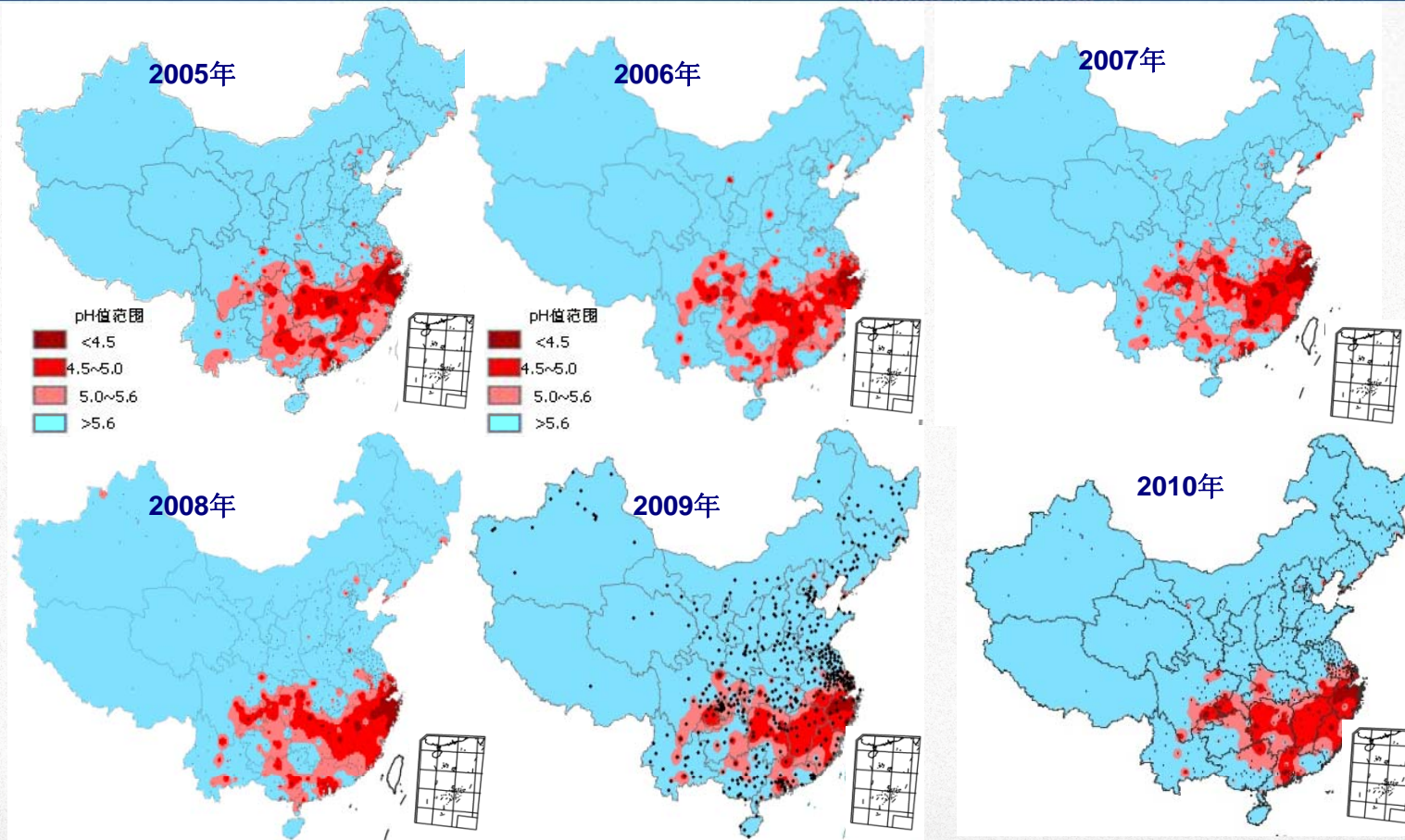
Policy

Effects

Conclusion



Acid rain area has decreased



- The ratio of acid rain-affected area to total national land area had dropped by 1.3 percentage points

Target

Measures

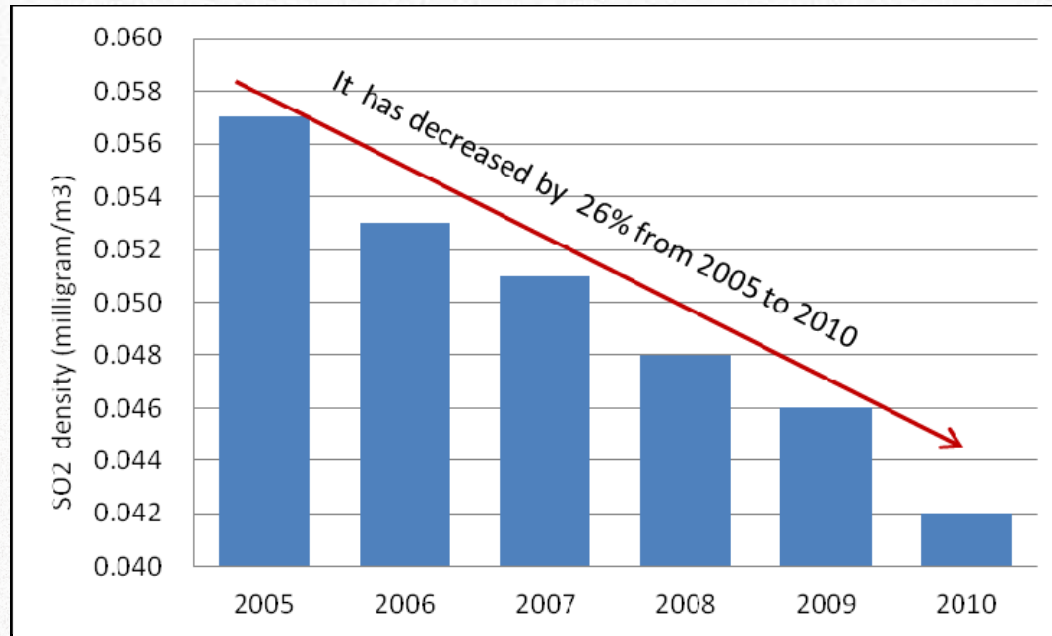
Policy

Effects

Conclusion



SO₂ intensity in key environmental protection cities has declined



Variation Trend of SO₂ Concentration in Key Environmental Protection Cities of 11th Five-Year Plan

- The contribution of SO₂ to acid rain has tended to decline given the emissions reduced. Average SO₂ intensity in key environmental protection cities has declined by 26.3% compared with 2005
- One of the great lessons from the Beijing Olympics in terms of ozone reduction was the importance of regional air quality control to producing good air quality during the competition. New regional coordinated control mechanism was explored and proved to be successful, also in Shanghai EXPO and Guangzhou Asian Games.

Target

Measures

Policy

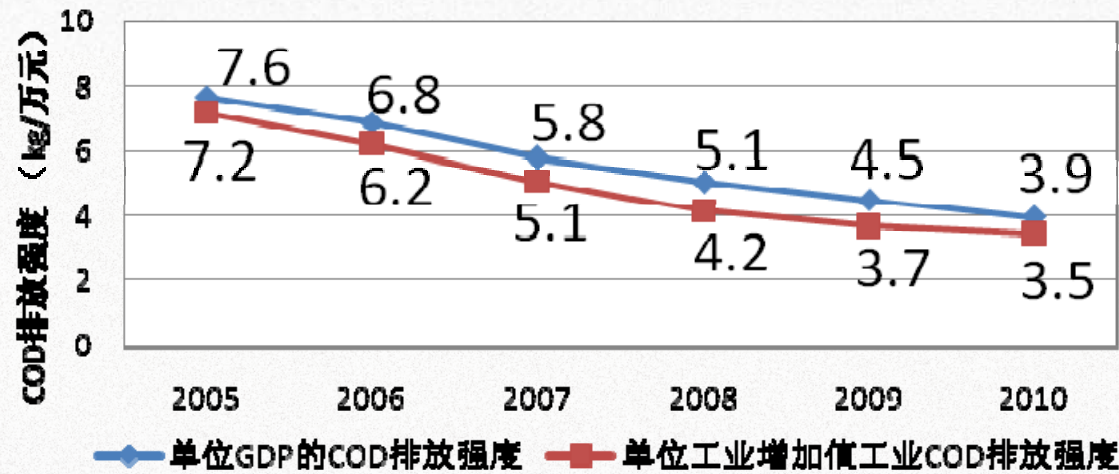
Effects

Conclusion

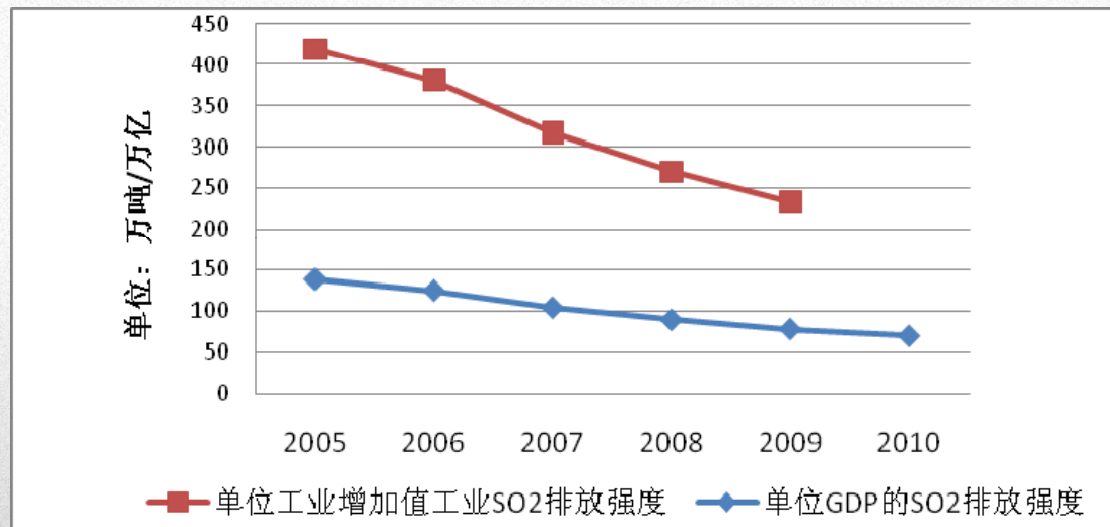


Intensity of COD and SO₂ emission decreased

COD



SO₂



Target

Measures

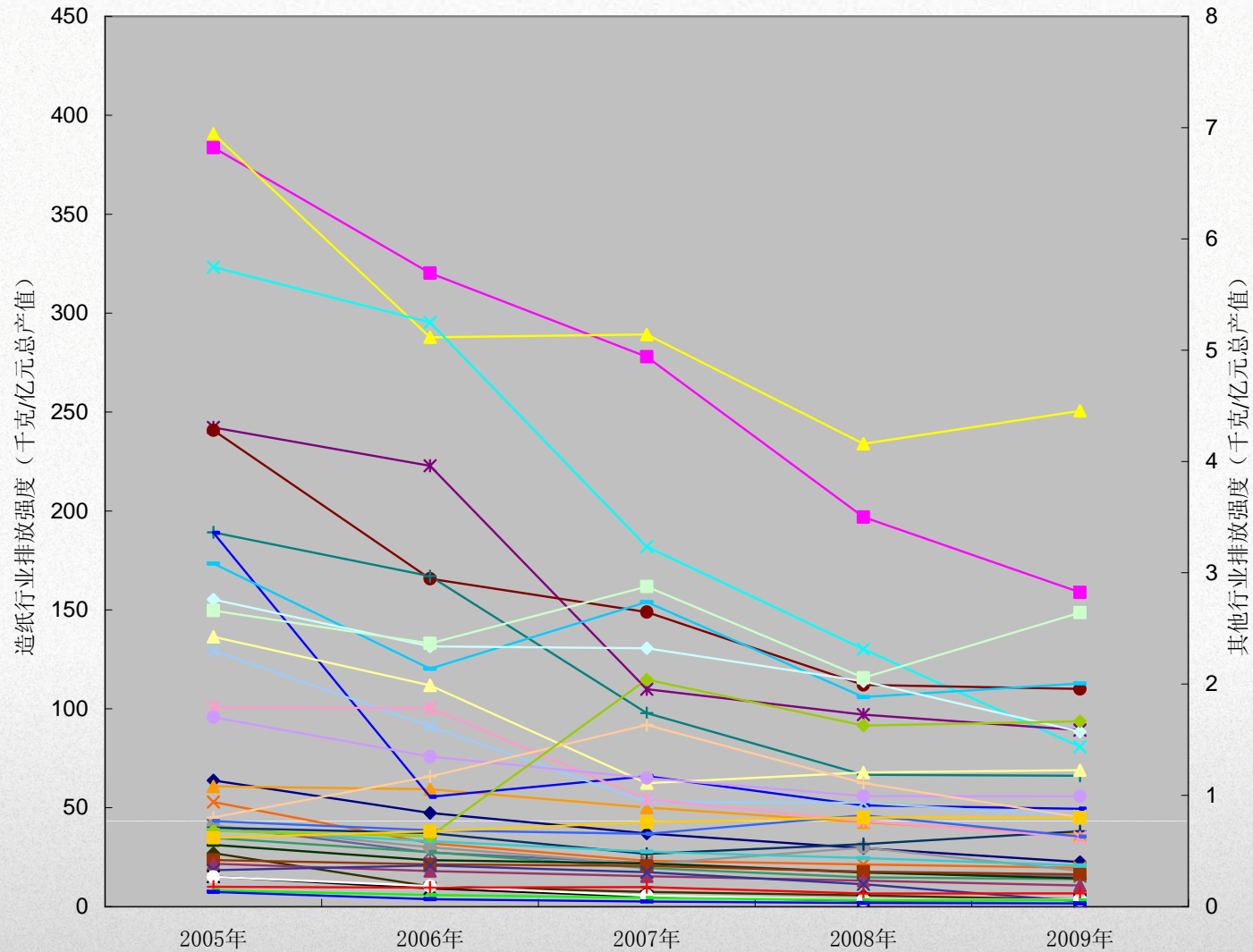
Policy

Effects

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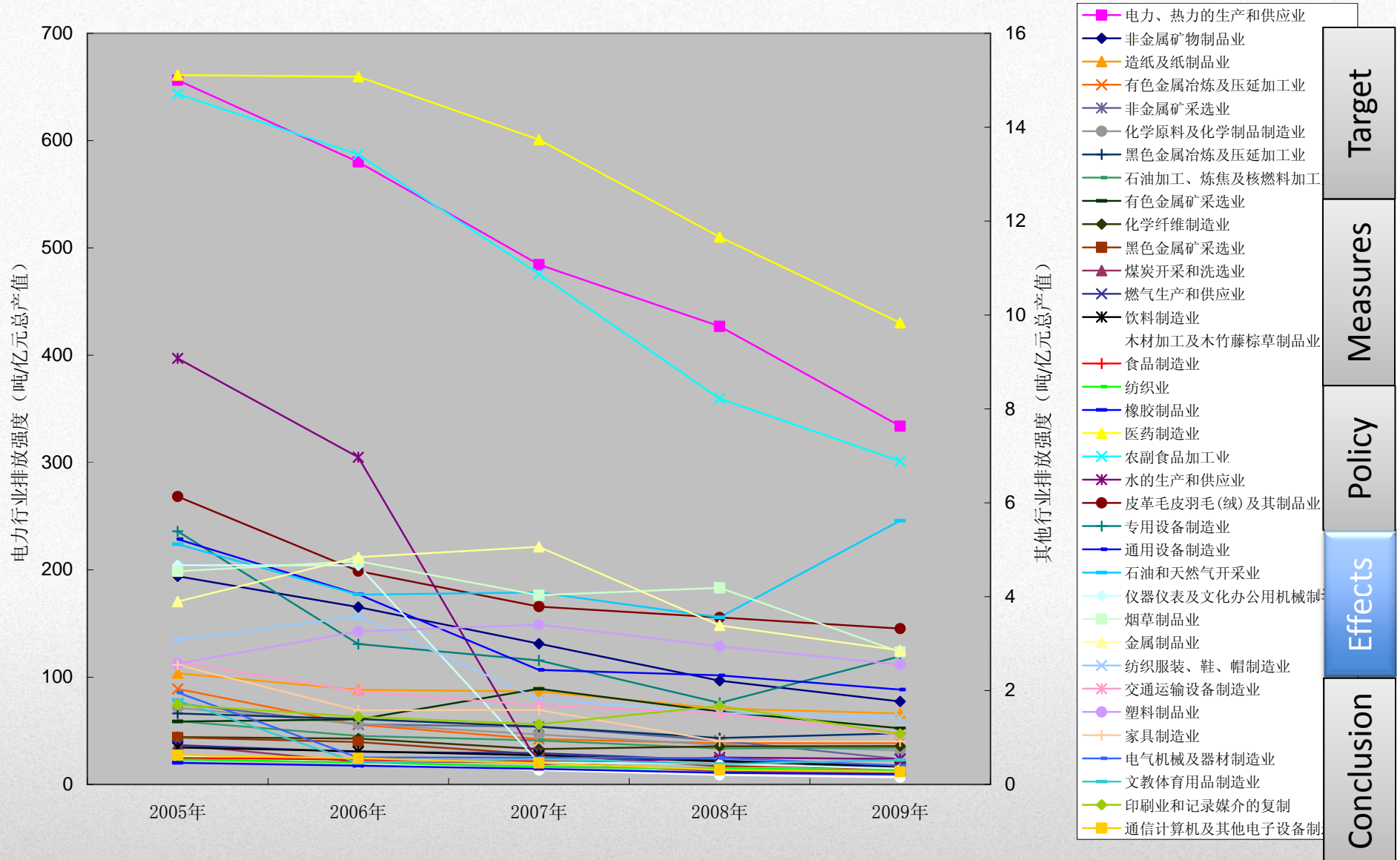
COD emission intensity in main sectors has a decreasing trend



<ul style="list-style-type: none"> 造纸及纸制品业 农副食品加工业 饮料制造业 有色金属矿采选业 食品制造业 水的生产和供应业 化学纤维制造业 化学原料及化学制品制造业 医药制造业 非金属矿采选业 纺织业 皮革毛皮羽毛(绒)及其制品业 燃气生产和供应业 木材加工及木竹藤棕草制品业 黑色金属矿采选业 煤炭开采和洗选业 黑色金属冶炼及压延加工业 电力、热力的生产和供应业 石油加工、炼焦及核燃料加工业 非金属矿物制品业 有色金属冶炼及压延加工业 纺织服装、鞋、帽制造业 仪器仪表及文化办公用机械制造业 印刷业和记录媒介的复制 金属制品业 橡胶制品业 石油和天然气开采业 交通运输设备制造业 专用设备制造业 通用设备制造业 烟草制品业 塑料制品业 文教体育用品制造业 电气机械及器材制造业 家具制造业 通信计算机及其他电子设备制造业 	Target	Measures	Policy	Effects	Conclusion
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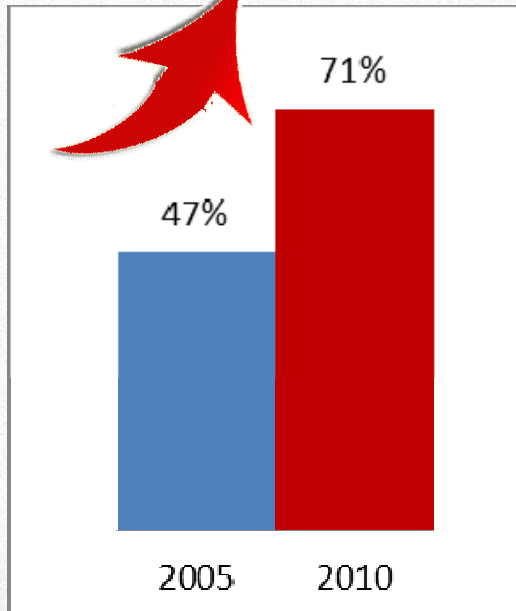
SO2 emission intensity in main sectors has a decreasing trend



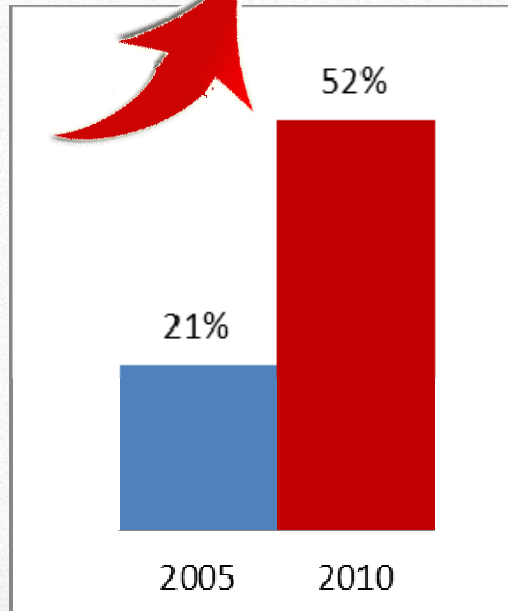


Pollution targets has positively affected the upgrading of industrial structure

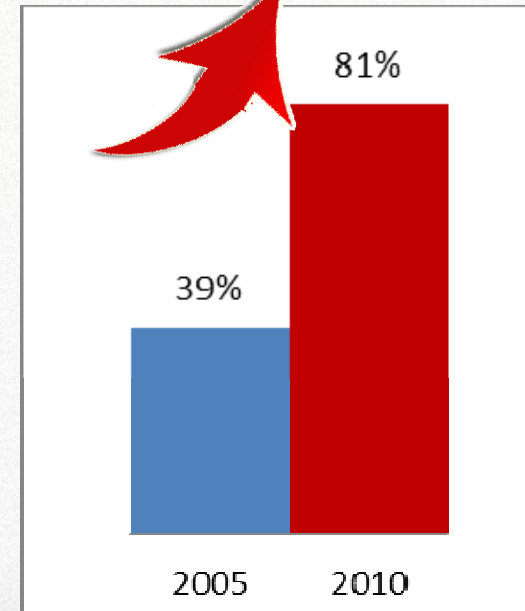
The share of thermal power generation units with total installed capacity of 300 GW and above



the proportion of large-sized blast furnace over 1000 cubic meters



The proportion of new type dry-process cement clinker yield



Target

Measures

Policy

Effects

Conclusion



Assessment Conclusion

- In the 11th Five-year Plan, by focusing on the two compulsory in **emission reduction targets**, and taking account of **environmental quality improvement**, implementation of greater accountability for achieving environmental protection goals, adopting a package of economic measures such as special price for electricity from power plants with desulphurization equipment, a sewage and garbage treatment fee, and greater efforts in constructing sewage treatment plants and desulphurization facilities in power plants, emission reductions have been achieved which normally occur in the later stage of industrialization.
 - Short-term emission reduction target was successfully implemented
 - a positive contribution was made to the ultimate national goals of economic restructuring and transformation of the growth pattern.

Target

Measures

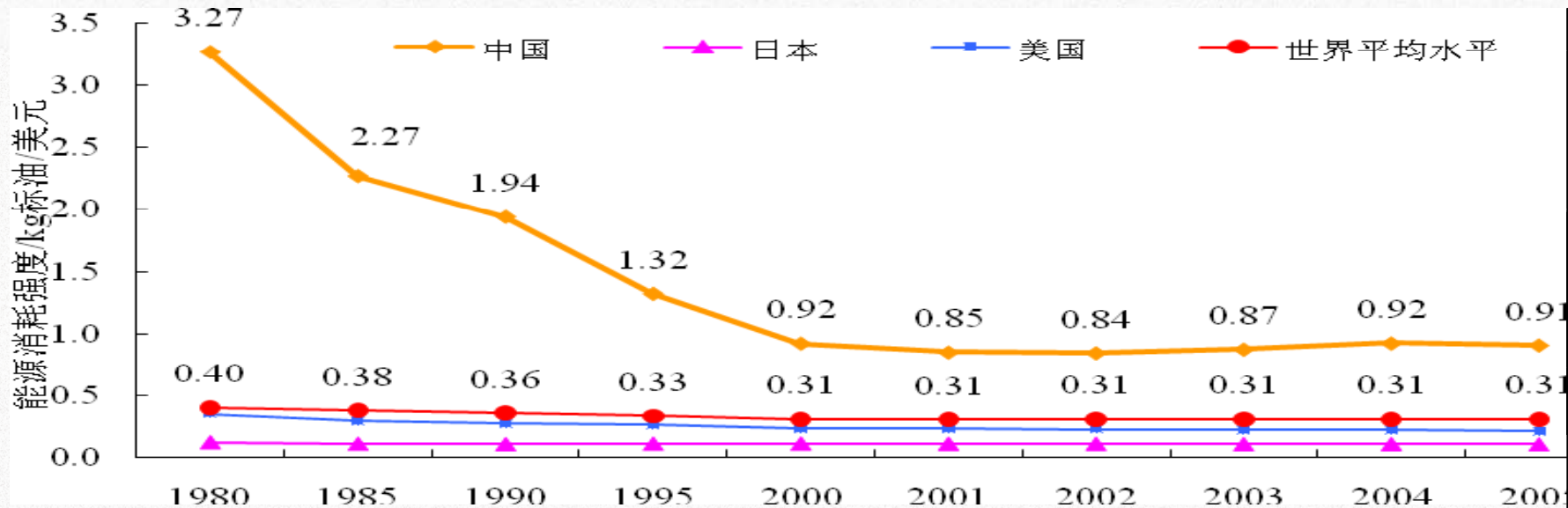
Policy

Effects

Conclusion



Issues still need attention



- Although energy consumption intensity has shown a declining trajectory it is still much higher than that in the developed countries. Energy consumption for per unit GDP is twice of the world average

Target

Measures

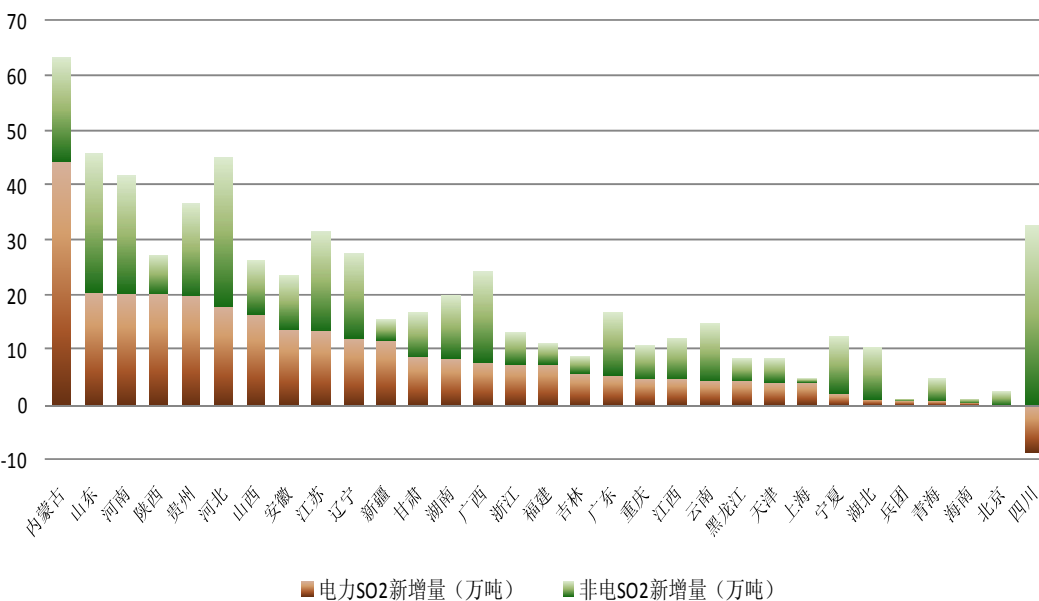
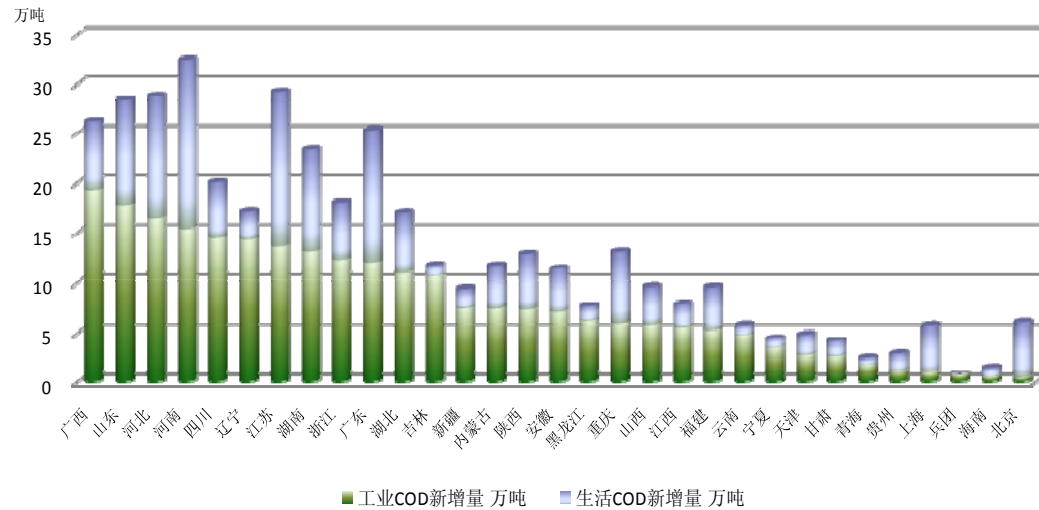
Policy

Effects

Conclusion



Issues still need attention



- 1. Control the newly added emission and maintain the achievement from the 11th FYP is still the largest challenge

Target
Measures
Policy
Effects
Conclusion



Issues still need attention

- 2. Special attention needs to be paid to emission reduction measures implemented **upfront** of a project, such as increasing the standards of production permits for industries, expanding water saving measures, increase the use of pre-treated coal
- 3. Economic restructuring, phasing out of outdated production capacity and clean production still needs to be improved. the proportion increasing of service industry in total GDP is 0.5 percentage point less than planned, the percentile of heavy industry in the added value of industry has increased from 68.1% to 70.9%.

Target

Measures

Policy

Effects

Conclusion



Issues still need attention

- 4. To explore consolidated multi-stakeholder actions involving government, enterprises and the society. Reduce the use of administrative measures in economic restructuring so as to reduce the costs. Industrial policies should be longer vision and more collaborating. Adjust stimulating policies to restrain the bounce of high pollution, high energy consuming sectors. Further improve the effects of restructuring.
- 5. Environment investment has a great impact on COD reduction, but the structure of investment has a less impact on it, which shows that pollution reduction were mainly achieved through large volume of financial input. attention needs to be paid to the cost-effectiveness of the pollution reduction projects.

Target

Measures

Policy

Effects

Conclusion



There is a need of research on a **medium- to long-term road map** and **major policies**

- To follow up, the Task Force should focus on developing a **medium- to long-term road map** for emission reduction.
 - Priorities should be given to phased implementation of pollutants types, the scope of pollution control, appropriate measures, policy mechanisms
 - Phased realization of emissions reduction, environmental quality improvement, environmental risk prevention, human health protection, maintaining eco-systems and other major strategic tasks.
 - Major preparatory policy research

Target

Measures

Policy

Effects

Conclusion

THANKS!

